

## THE CLAIMED INVENTION IS:

1. An on-line financial processing and data storage system, the system being accessible to a client, the system comprising:

- 5           (a)     a storage facility storing a hierarchy of functions, the hierarchy of functions including a plurality of task functions at a first level and a plurality of resource functions at a second level, and financial data; and
- (b)     a processor in data communication with the storage facility, the processor configured and arranged to:
- 10           (i)     receive an operation instruction and an argument from the client;
- (ii)    invoke a task function in response to the operation instruction and pass the argument to the task function;
- (iii)   invoke at least one resource function in response to the invoked task function; and
- 15           (iv)    retrieve and process a set of financial data from the database, the set of financial data being processed by the at least one invoked resource function.

2. The system of claim 1 wherein the at least one resource function includes a resource function that processes the set of financial data to achieve a pecuniary result.

20

3. The system of claim 2 wherein the at least one resource function includes a resource function that processes the set of financial data to achieve a non-pecuniary result.

25

4. The system of claim 3 wherein the at least one resource function includes a framework service.

5. The system of claim 1 wherein:

- 30           (i)     the storage facility further stores rule functions; and

- (ii) the processor is further configured and arranged to invoke at least one rule function in response to the invoked resource function.

6. The system of claim 1 wherein:

- 5 (i) the storage facility further stores rule functions; and  
(ii) the processor is further configured and arranged to invoke at least one rule function in response to the invoked resource function, and the set of financial data is retrieved from the database in response to the rule function.

10

7. The system of claim 6 wherein the processor is further configured and arranged to execute a persistence service, the persistence service retrieving financial data from the storage facility in response to the rule function and instantiating a business object, wherein the business object is defined by the retrieved financial related data.

15

8. The system of claim 7 wherein the business object describes a business entity.

9. The system of claim 8 wherein the at least one rule function processes data within the business object and generates new data.

20

10. The system of claim 1 wherein the plurality of task functions is collected into a set of task functions, thereby forming a server.

11. The system of claim 10 further wherein the plurality of task functions is  
25 collected into a plurality of sets of task functions, each set forming a separate server.

12. The system of claim 11 further wherein the plurality of sets of task functions includes first and second sets of task functions, wherein the first set of task functions and the second set of task functions are mutually exclusive.

30

13. The system of claim 1 wherein the storage facility includes multiple storage units.

14. The system of claim 1 wherein the client is a computer program and the processor executes the client computer program.

15. The system of claim 1 wherein:

- (a) the storage facility includes a remote memory facility and a plurality of local memory facilities, the financial data being stored in the remote memory facility and the hierarchy of functions being stored in the local memory facilities; and
- (b) the system further comprises a plurality of processors, each processor in data communication with the remote storage facility and at least one of the local storage facilities, each processor configured and arranged to:
  - (i) receive an operation instruction and an argument from the client;
  - (ii) invoke a task function in response to the operation instruction and pass the argument to the task function;
  - (iii) invoke at least one resource function in response to the invoked task function; and
  - (iv) retrieve and process a set of financial data from the database, the set of financial data being processed by the at least one invoked resource function.

16. The system of claim 1 wherein:

- (a) the client includes a terminal configured to receive input from an operator;
- (b) the storage facility further includes a workflow database having a plurality of data, each data defining a job for execution by the operator; and
- (c) the processor is further configured and arranged to:
  - (i) execute a set of workflow functions; and
  - (ii) manipulate data stored in the workflow database in response to execution of at least one of the workflow functions.

17. The system of claim 16 wherein the workflow database is configured to receive instructions from the client.

5        18. The system of claim 1 wherein:

- (a) the memory facility further stores a set of GUI data for defining a graphical user interface;
- (b) the processor is further configured to transmit the GUI data defining the graphical user interface to a subscriber memory facility for replication, the  
10        subscriber memory facility being accessible by the client.

19. The system of claim 18 further comprising:

- (a) a subscriber memory facility, the subscriber memory facility storing data defining a graphical user interface; and
- 15        (b) a client having a display and a processor in data communication with the display and the remote memory facility, the processor configured to retrieve the GUI data from the remote memory facility and to generate a graphical user interface.

20        20. An on-line financial processing and data storage system, the system being accessible to a client, the system comprising:

- (a) a storage facility storing a hierarchy of functions and financial data; and
- (b) a processor in data communication with the storage facility, the processor configured and arranged to:
  - 25        (i) receive an operation instruction and an argument from the client;
  - (ii) invoke a plurality of functions in response to the operation instruction and pass the argument to at least one of the invoked functions; and
  - (iii) retrieve and process a set of financial data from the database, the set  
30        of financial data being processed by at least one of the invoked

functions, the set of financial data forming an object descriptive of a business entity.

21. The system of claim 20 wherein the plurality of functions includes a first  
5 resource function that processes the set of financial data to achieve a pecuniary result.

22. The system of claim 21 wherein the plurality of functions includes a second  
resource function that processes the set of financial data to achieve a non-pecuniary  
result.

10

23. The system of claim 22 wherein the plurality of functions includes a  
framework service.

24. The system of claim 23 wherein:

15

- (i) the storage facility further stores rule functions; and
- (ii) the processor is further configured and arranged to invoke at least one rule function in response to one of the invoked plurality of functions, and the set of financial data is retrieved from the database in response to the rule function.

20

25. The system of claim 24 wherein:

25

- (a) the storage facility includes a remote memory facility and a plurality of local memory facilities, the financial data being stored in the remote memory facility and the plurality of functions being stored in the local memory facilities; and
- (b) the system further comprises a plurality of processors, each processor in data communication with the remote storage facility and at least one of the local storage facilities, each processor configured and arranged to:
  - (i) receive an operation instruction and an argument from the client;

- (ii) invoke a plurality of functions in response to the operation instruction and pass the argument to at least one of the invoked functions; and
- (iii) retrieve and process a set of financial data from the database, the set of financial data being processed by at least one of the invoked functions, the set of financial data forming an object descriptive of a business entity.

26. The system of claim 25 wherein:

- (a) the client includes a terminal configured to receive input from an operator;
- (b) the storage facility further includes a workflow database having a plurality of data, each data defining a job for execution by the operator; and
- (c) the processor is further configured and arranged to:
  - (i) execute a set of workflow functions; and
  - (ii) manipulate data stored in the workflow database in response to execution of at least one of the workflow functions.

27. The system of claim 26 wherein:

- (a) the memory facility further stores a set of GUI data for defining a graphical user interface;
- (b) the processor is further configured to transmit the GUI data defining the graphical user interface to a remote client memory facility for replication, the remote client memory facility being accessible by the client.

28. The system of claim 27 further comprising:

- (a) a remote client memory facility, the remote client memory facility storing data defining a graphical user interface; and
- (b) a client having a display and a processor in data communication with the display and the remote client memory facility, the processor configured to retrieve the GUI data from the remote client memory facility and to generate a graphical user interface.

29. A method of providing on-line financial processing and data storage, the method being responsive to input from a client, the method comprising:

- (a) receiving an operation instruction and an argument from the client;
- 5 (b) invoking a task function in response to the operation instruction and passing the argument to the task function;
- (c) invoking at least one resource function in response to the invoked task function; and
- 10 (d) retrieving and processing a set of financial data from the database, the set of financial data being processed by the at least one invoked resource function.

30. The method of claim 29 wherein the at least one resource function includes a resource function that processes the set of financial data to achieve a pecuniary result.

15

31. The method of claim 30 wherein the at least one resource function includes a resource function that processes the set of financial data to achieve a non-pecuniary result.

20 32. The method of claim 31 wherein the at least one resource function includes a framework service.

33. The method of claim 29 further comprising invoking at least one rule function in response to the invoked resource function, and retrieving the set of financial  
25 data from the database in response to the rule function.

34. The method of claim 33 further comprising executing a persistence service, the persistence service retrieving financial data from the storage facility in response to the rule function and generating a business object, wherein the business object is defined by  
30 the retrieved financial related data.

35. The method of claim 34 wherein the business object describes a business entity.

36. The method of claim 35 wherein the at least one rule function processes data within the business object and generates new data.

37. The method of claim 29 wherein the plurality of task functions is collected into a set of task functions, thereby forming a server.

38. The method of claim 37 further wherein the plurality of task functions are collected into a plurality of sets of task functions, each set forming a separate server.

39. The method of claim 38 further wherein the plurality of sets of task functions includes first and second sets of task functions, wherein the first set of task functions and the second set of task functions are mutually exclusive.

40. The method of claim 29 further comprising:

(e) executing a set of workflow functions; and

(f) manipulating data stored in a workflow database in response to execution of at least one of the workflow functions, each datum defining a job for execution by a client operator.

41. The method of claim 29 further comprising transmitting GUI data defining a graphical user interface for use by the client to a remote memory facility for replication, the remote memory facility being accessible by the client.

42. The method of 29 wherein the client is a computer program and the method further comprises executing the client.

43. An on-line financial processing and data storage system, the system being accessible to a client, the system comprising:



- (a) a first on-line transaction processing system located in a first region;
- (b) a first data storage facility storing financial data, located in the first region, the first data storage facility in data communication with the first on-line transaction processing system;
- 5 (c) a second on-line transaction processing system located in a second region, the second region being remote with respect to the first region; and
- (d) the second data storage facility in data communication with the second on-line transaction processing system and the first data storage facility,
- wherein the first and second data storage facilities store at least some common financial
- 10 data and the first and second data storage facility synchronize at least some of the common financial data.

44. The system of claim 43 wherein the first data storage facility stores first and second sets of data, the first set of data changeable by only the first on-line transaction processing system and the second set of data being read-only to the first on-line transaction processing system.

15

45. The system of claim 43 wherein the first and second data storage facilities synchronize the common data that has been modified.

20

46. A component based framework for business domain specific processing comprising:

a plurality of executable modules, including first, second and third modules;

the first executable module, having a plurality of process rules and conditional

25 logic, configured to receive a request, determine whether the request relates to a financial action or an operation action, and invoke the action to initiate a sequence of business rules and services; and

the second and third executable modules being responsive to the first executable module, the financial action, and the operation action, the second module being

30 configured to provide services, the third module being configured to retrieve and update

stored financial and associated information in a storage medium, wherein additional information related to the specific information may be automatically retrieved.

47. The framework of claim 46, wherein the first executable module further initiates the process rules and conditional logic to control performance of the plurality of executable modules.

48. The framework of claim 46, wherein the financial action and the operation action further provide domain-specific processing.

49. The framework of claim 46, wherein the financial action provides a pecuniary functionality, and operational action provides a non-pecuniary functionality.

50. The framework of claim 46, wherein the second executable module further comprise support services having domain processing trivialities for activation of the domain-specific processing, wherein the services are executed by the first executable module and the financial and operational actions.

51. The framework of claim 46, wherein the third executable module further comprises a plurality of domain-independent interfaces, having adaptability to be used by the first executable module, the financial actions, and operational actions, to map a plurality of attributes of a business process to the storage medium.

52. The framework of claim 51, wherein the storage medium further provides persisted data storage for mapping the attributes of the business process to the storage medium, wherein the persisted data is used by at least one business process.

53. The framework of claim 51, wherein the storage medium provides information for recreating documentation.

54. The framework of claim 46, wherein the plurality of executable modules further comprises a centralized module having configurable parameters, the plurality of

modules informing the centralized module of a system parameter change, wherein the centralized module reacts to alter the system parameter if necessary.

55. The framework of claim 46, wherein the plurality of executable modules further comprises an interface, the interface electrically connecting modules, each module  
5 having a communicating protocol, wherein one module protocols is dissimilar from another.

56. The framework of claim 46, wherein the financial action and operational actions are executed by modules that are of different domains, adaptable to domain specific attributes.

10 57. A method for business domain-specific processing comprising:  
combining a plurality of executable modules including first, second and third modules;  
executing the first executable module, having a plurality of process rules and conditional logic, configured to receive a request, determine whether the request relates  
15 to a financial action and an operation action, and invoke the action to initiate a sequence of business rules and services; and  
executing the second and third executable module being responsive to the first module, the financial action, and the operation action, the second module being configured to communicate with a plurality of external interfaces, the third module being  
20 configured to retrieve and update stored financial and associated information in a storage medium, wherein additional information related to the specific information may be automatically retrieved.

58. The method of claim 57, wherein executing the first executable module further comprises initiating the process rules and conditional logic to control performance  
25 of the plurality of executable modules.

59. The method of claim 57, wherein invoking the financial action and the operation action further provides domain-specific processing.

60. The method of claim 57, wherein invoking the financial action provides a pecuniary functionality, and invoking the operational action provides a non-pecuniary functionality;

61. The method of claim 57, wherein executing the second executable module  
5 further comprises activating support services having trivialities for activation of the domain specific processing, wherein the services are executed by the first executable module and the financial and operational actions;

62. The method of claim 57, wherein executing the third executable module  
10 further comprises initiating a plurality of domain-independent interfaces, having the adaptability to be used by the financial and operational actions, to map a plurality of attributes of a business process to the storage medium.

63. The method of claim 62, wherein the mapping of the plurality of attributes  
15 of the business process to the storage medium further provides storing the attributes of the business process in the storage medium, wherein persisted data is used by at least one business process.

64. The method of claim 63, wherein storing the attributes of the business  
process further comprises storing information for re-creating documentation.

65. The method of claim 57, wherein initiating the plurality of executable  
20 modules further comprises informing a centralized module of a system behavior, wherein the centralized module reacts to alter the system behavior if necessary.

66. The method of claim 57, wherein initiating the plurality of executable  
modules further comprises interfacing electrically connecting modules, each having a communicating protocol, wherein the module protocols may be different.

67. The method of claim 57, wherein invoking the financial action and operational actions further comprises executing by modules that are of different domains, adaptable to the domain specific attributes.

68. A component based system for business domain-specific processing
- 5 comprising:
- a plurality of interfaces electrically interconnected to at least one framework processor, wherein the framework processor comprises:
    - a plurality of executable modules including first, second and third module;
    - the first executable module, having a plurality of process rules and conditional
    - 10 logic, configured to receive a request, determine whether the request relates to a financial action and an operation action, and invoke the action to initiate a sequence of business rules and services; and
    - the second and third executable modules being responsive to the first executable module, the financial action, and the operation action, the second executable module
    - 15 being configured to provide services, the third executable module being configured to retrieve and update stored financial and associated information in a storage medium, wherein additional information related to the specific information may be automatically retrieved.
  - a storage medium, connected to the processor, for collecting customer information
  - 20 and archiving data;
  - a decision processor, interconnected to the framework processor, for reporting a plurality of activities relating to business transactions, wherein the decision processor performs data replication in plurality information repositories; and
  - a package solution process, interconnected to the framework processor, for
  - 25 providing a plurality of foreign knowledge bases.

69. The component-based system of claim 68, wherein the first executable module further initiates the process rules and conditional logic to control performance of the plurality of executable modules.

70. The component-based system of claim 68, wherein the financial action and the operation action further provide domain-specific processing.

71. The component based system of claim 68, wherein the financial action provides a pecuniary functionality, and operational action provides a non-pecuniary  
5 functionality.

72. The component-based system of claim 68, wherein the second executable module further comprises support services having technical details for activation of the domain specific processing, wherein the services are executed by the first executable module and the financial and operational actions.

10 73. The component-based system of claim 68, wherein the third executable module further comprises a plurality of domain-independent interfaces, having the adaptability to be used by the financial and operational actions, to map a plurality of attributes of a business process to the storage medium.

74. The component-based system of claim 73, wherein the storage medium  
15 further provides persisted data storage for mapping the attributes of the business process to the storage medium, wherein the persisted data is used by at least one business process.

75. The component-based system of claim 74, wherein the storage medium further utilizes the storage medium information for recreating documentation.

76. The component-based system of claim 68, wherein the plurality of  
20 executable modules having configurable parameters, informs a centralized module of a system behavior, wherein the centralized module reacts to alter the system behavior if necessary.

77. The component-based system of claim 68, wherein the plurality of executable modules further comprises an interface electrically connecting modules, each  
25 having a communicating protocol, wherein the module protocols may be different.

78. The component-based system of claim 68, wherein the financial action and operational actions are executed by modules that are of different domains, adaptable to domain specific attributes.

79. An article of manufacture for providing a multi-environment business system, the article of manufacture comprising a computer readable medium having local scalable business system instructions comprising:

a plurality of executable modules including first, second and third modules;  
the first executable module, having a plurality of process rules and conditional logic, configured to receive a request, determine whether the request relates to a financial action or an operation action, and invoke the action to initiate a sequence of business rules and services; and

the second and third executable modules being responsive to the first module, the financial action and the operation action, the second module being configured to retrieve and update stored financial and associated information in the storage medium, wherein additional information related to the specific information may be automatically retrieved, the third module being configured to communicate with a plurality of external interfaces.

80. A method for executing a financial processing system, the system including code for executing one or more rule-based function, each rule-based function having a state, the method comprising:  
executing the rule-based function;  
determining the state of the rule associated with the rule-based function; and  
when the state of the rule is false, completing execution of the rule-based function without regard to the rule.

81. The method of claim 80, wherein executing the rule-based function comprises processing the rule when the state of the rule is true.

82. The method of claim 80, wherein the determining the state of the rule further comprises storing the rules in a memory location, the memory location having the

ability to be linked with a plurality of applications.

83. The method of claim 80, wherein the determining the state of the rule further comprises predetermining a default state of each rule stored in a rules-based database, each rule having a default state upon initialization of the system.

5           84. The method of claim 80, wherein the predetermining the setting of each rule further comprises specifying attributes including a target application, a priority level, and geographical location.

85. The method of claim 80 further comprising preventing execution of a transaction by enabling a first level permission preventing a user from executing the  
10 transaction, the first level permission having a second level permission, wherein the range allowed by the first level permission will be limited.

86. A rule-based system for processing financial information, the rule-based system comprising:

          a database of rules, each rule having a selectable state;  
15           a processor loaded with executable code, the code including at least one rule based function; and  
          wherein the code is programmed to access the database of rules, determine the state of one or more of the rules, and complete execution of the rule-based function.

20           87. The rule-based system of claim 86 further comprising an interface for accessing the database of rules, the interface capable of initiating a command having logic that accesses one or more rules.

88. The rule-based system of claim 86 further comprising a monitor for  
25 receiving status indicating the state for each rule.

89. The rule-based system of claim 86, wherein the processor function comprises logic for processing the rule when the state of the rule is true.



90. The rule-based system of claim 86, wherein the database further comprises memory location storing the rules, the memory location having the ability to be linked with a plurality of applications.

5 91. The rule-based system of claim 86, wherein the database further comprises a memory table defining a default state of each rule stored in a rules-based database, each rule having a default state upon initialization of the system.

92. The rule-based system of claim 86, wherein the determination of the state of one or more rules further comprises an attribute including a target application, a  
10 priority level, and geographical location.

93. The rule-based system of claim 86 further comprising logic for preventing execution of a transaction by enabling a first level permission preventing a user from executing the transaction, the first level permission having a second level permission, wherein the range allowed by the first level permission will be limited.

15